

EXHIBIT 24

EXHIBIT 24 – U.S. Patent No. 8,725,700

Claim 1	Accused Knox Suite Products ¹
<p>[1PRE] A method of collecting and providing access to quality or service information associated with one or more wireless communications networks, mobile devices, or end users, comprising:</p>	<p>The Accused Knox Suite Products provide a network management platform through a network communication interface for managing mobile devices that interact with an enterprise network. The Accused Knox Suite Products include Knox Platform for Enterprise (KPE), Knox Mobile Enrollment (KME), Knox Manage, Knox E-FOTA, Knox Asset Intelligence (KAI), Knox Remote Support, Knox Capture, Knox Authentication Manager, Knox Configure, and Knox Guard.</p> <p>The Knox Service Guide v3.05 describes Knox Manage as an enterprise mobility management (EMM) platform that includes an EMM console that allows IT administrators to manage mobile devices enrolled with Knox Manage. Knox Service Guide v3.05, p. 7. The Knox Manage Client (e.g., application) is deployed to managed mobile devices when they are enrolled with Knox Manage. Knox Service Guide v3.05, p. 5. In one example, the managed mobile device can be configured, through the EMM application, to report device location information to the EMM console.</p> <p>See https://image-us.samsung.com/SamsungUS/samsungbusiness/pdfs/Samsung-KNOX-QuickStarts-3v05.pdf (“Knox Service Guide v3.05”)</p> <div data-bbox="861 1003 1906 1307" style="border: 1px solid black; padding: 10px;"> <p>2.7. Device Policy Creation</p> <p>Device policies are deployed when a device is enrolled in Knox Manage or can be pushed automatically to devices. Knox Manage implements a hierarchy policy set that allows policies to be deployed to all users, while other policies can then be deployed to a subset of users based on your business need. Some of the policies that can be configured include allowing users to use the camera, configure the device to report the devices location within the EMM console, and allowing users to wipe devices.</p> </div>

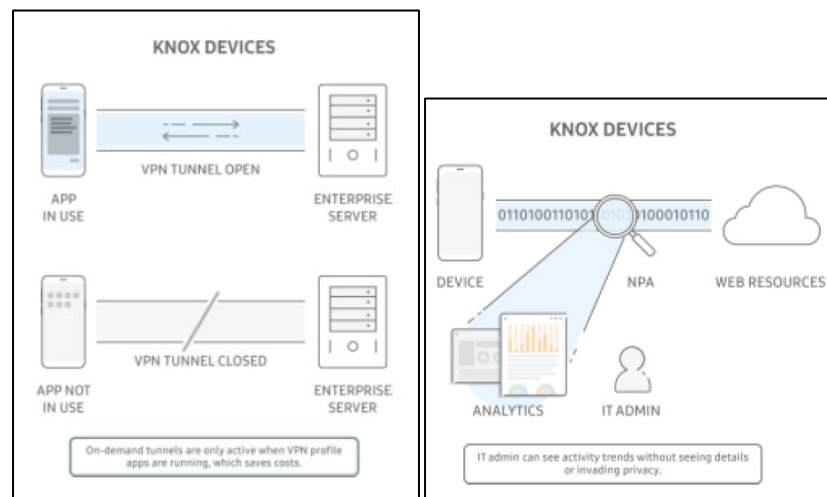
¹ Upon information and belief, all Accused Products function in a substantially similar manner for the relevant accused functionality.

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Knox Service Guide v3.05, p. 7 (annotated).

Samsung published several documents outlining the functionality of Knox Suite, including user guides, promotional documents, and white papers. The figures below, from Samsung Knox White Paper v1.5, show the network communication interface that allows for the secure transfer of information between the managed mobile devices and enterprise servers on the enterprise network.

See <https://image-us.samsung.com/SamsungUS/samsungbusiness/solutions/topics/iot/071421/Knox-Whitepaper-v1.5-20210709.pdf> (“Knox White Paper v1.5”)

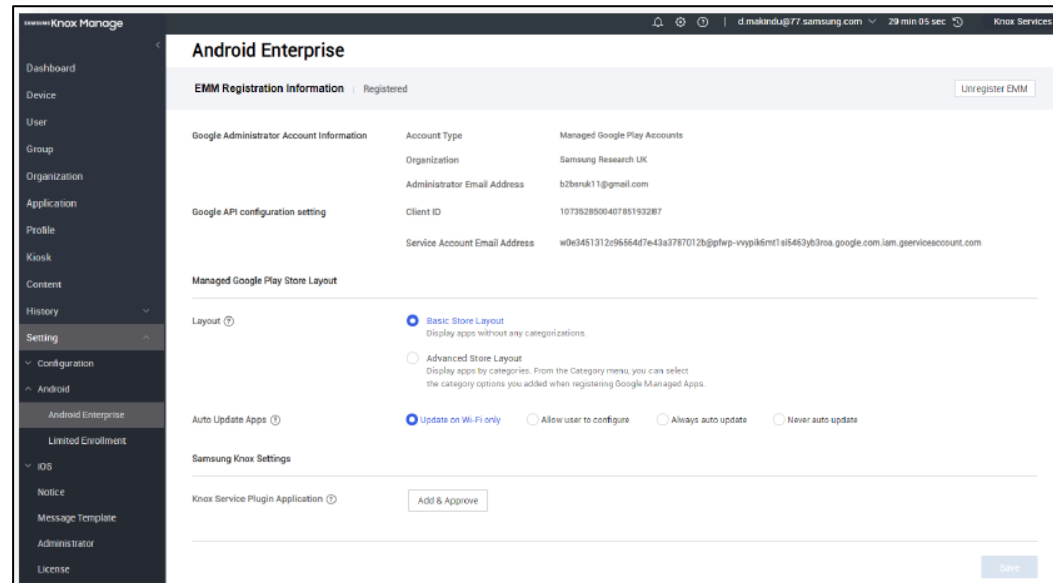


Knox White Paper v1.5, pp. 35 (left), 37 (Right).

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The image below shows the EMM console of Knox Manage that allows the IT admin to enroll, configure, manage, or review information associated with the managed mobile devices.

See <https://docs.samsungknox.com/admin/knox-platform-for-enterprise/assets/knox-manage-knox-platform-for-enterprise-guide-v3.0.pdf> (“Samsung Knox Manage 22.5”)



Samsung Knox Manage 22.5, p. 8

[1A] using a computer, receiving mobile device location information of a plurality of mobile devices or end users that are associated with one or more wireless communications networks and quality or service information pertaining to wireless access characteristics for one or more

The Accused Knox Suite Products provide a network communication interface between an IT admin through the EMM console and the EMM client on the managed mobile devices. The EMM console network communication interface provides a front-end interface for an IT administrator to manage, configure, and review information associated with managed mobile devices.

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mobile devices of said plurality of mobile devices or end users, and said quality or service information comprising coverage, availability or performance information of one or more wireless communications networks or said one or more mobile devices,

The figure below shows the EMM console which provides a front-end interface for the IT administrator on a first computer device to review a database of mobile device profiles. The figure below, from Samsung's Knox E-FOTA On-Premises Admin Guide, shows a database of information corresponding to each mobile device managed by an employer. In this example, the EMM console accesses device information from a Knox database for user type, operating system version, security patch version, and firmware version for the managed mobile devices.

The screenshot displays the Samsung Knox E-FOTA Admin Console interface. On the left is a dark sidebar with navigation options: Workspaces, Users, License, Versions (selected), and Agent. The main area is titled 'Versions' and includes a search bar for 'Model / Sales Code' with the value 'SM-C950F / XXV'. Below this is a table with columns: TYPE, OPEN DATE, OS VERSION, SECURITY PATCH, and FIRMWARE VERSION. The table lists several entries for 'user' type devices. A context menu is open over the first row, showing options: 'Upload Versions' (highlighted with a red box), 'Mark as Tested', 'Unmark from Tested', 'Add to Blocklist', 'Remove from Blocklist', and 'Download Versions Scenario'. At the bottom right of the table, it shows '1 - 25 of 44' and 'Show 25'.

TYPE	OPEN DATE	OS VERSION	SECURITY PATCH	FIRMWARE VERSION
user	2020-07-30	Piet(Android 9)	2020-06-01	G950FXXU9DT1/G950FXXM9DT1/G950FXXU9DT1
user	2020-06-11	Piet(Android 9)	2020-05-01	G950FXXS9DT1/G950FXXM9DT1/G950FXXS9DT1
user	2020-04-15	Piet(Android 9)	2020-04-01	G950FXXS8DT1/G950FXXM8DT1/G950FXXS8DT1
user	2020-03-17	Piet(Android 9)	2020-03-01	G950FXXS8DT1/G950FXXM8DT1/G950FXXS8DT1
user	2020-01-22	Piet(Android 9)	2020-01-01	G950FXXS4DT1/G950FXXM4DT1/G950FXXS4DT1
user	2019-12-30	Piet(Android 9)	2019-11-01	G950FXXU4DSK9/G950FXXM4DSK9/G950FXXU4DSK9
user	2019-11-27	Piet(Android 9)	2019-10-01	G950FXXS5DT1/G950FXXM5DT1/G950FXXS5DT1
user	2019-09-22	Piet(Android 9)	2019-09-01	G950FXXS5DT1/G950FXXM5DT1/G950FXXS5DT1

Knox E-FOTA On-Premises Admin Guide, p. 15

The Knox Asset Intelligence (KAI) service, within the Knox Suite, allows the EMM console to monitor network information associated with each of the managed mobile device, as described in the below.

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Get started with Knox Asset Intelligence

Last updated September 6th, 2023

Knox Asset Intelligence is a data analytics solution that turns device usage information into actionable business insights. With Knox Asset Intelligence, IT admins can monitor the health and status of their device fleet's apps, batteries, and network connectivity through a powerful and highly-customizable dashboard.

See <https://docs.samsungknox.com/admin/knox-asset-intelligence/get-started/tutorials/get-started-with-knox-asset-intelligence/>

In a KAI promotional document, Samsung describes the KAI service as “a web portal designed to give enterprise IT a much deeper understanding of mobile device and app performance.”

See https://kp4-cdn.samsungknox.com/resource/Knox%20Asset%20Intelligence%20-%20Design%20feature_3k-O.pdf (“KAI Design Features”)

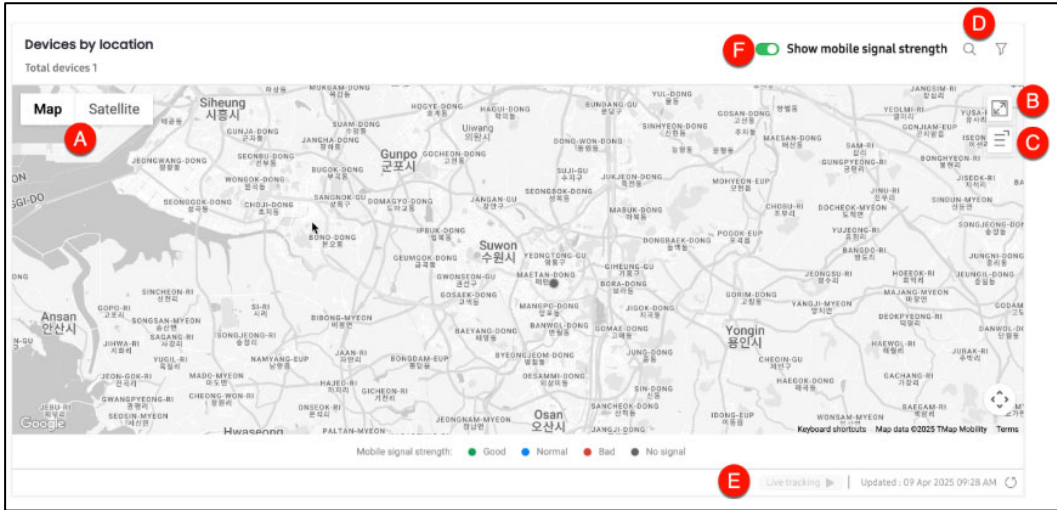
Knox Asset Intelligence brings visibility to mobile device performance

IT departments traditionally haven't had the necessary visibility across their device fleet to identify performance issues and have struggled to assess how well devices and apps are being utilized and what factors are reducing the life cycle of their mobile assets.

Through research and multiple iterations, Knox Asset Intelligence was created—a web portal designed to give enterprise IT a much deeper understanding of mobile device and app performance, helping to ensure that any problems that could impact productivity are quickly resolved.

KAI Design Features, p. 2

The KAI service allows IT admins to track the location of managed mobile devices through a “locations dashboard” and interactive map (see below). The interactive map includes a toggle button (see F in the figure below) that allows the IT admin to view the mobile signal strength of a managed mobile device in real-time, at a specific location.



See <https://docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/location-dashboard/use-the-location-dashboard/>

The table below describes the real-time data that is retrieved from the managed mobile devices, associated with the network performance and location of the managed mobile devices. The IT admin can view, through the EMM console, live tracking for up to 30 seconds at a time. The table below states that the mobile

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signal strength information, associated with managed mobile devices is “updated at the same rate as your location data collection frequency.”

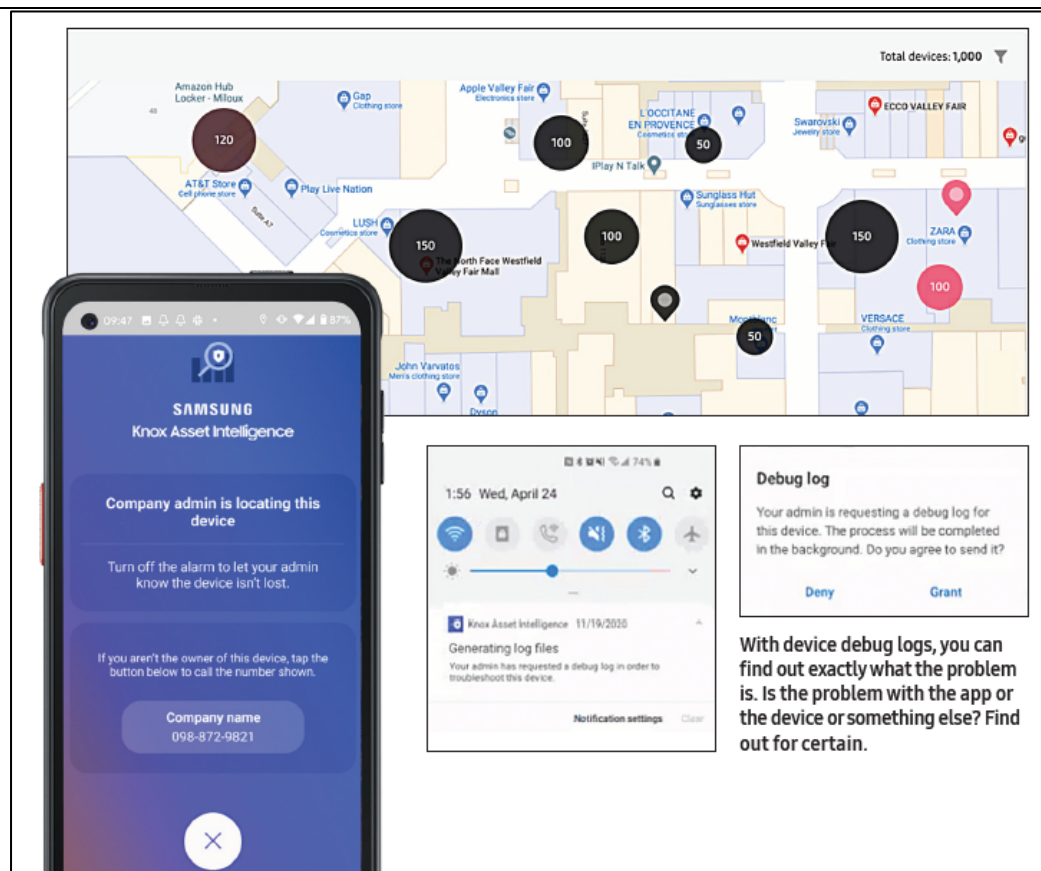
E	Live tracking	<p>Click to receive continuous location updates from your devices for up to 30 seconds at a time. Live tracking stops after 30 seconds, after which you'll have to click the Live tracking button once again to receive continuous updates for another 30 seconds.</p> <p>This button can only be clicked after a certain zoom level. If you can't click the button, try zooming in on the map until you can. If your devices are active and reporting location data, you'll see a dot on the map showing the device's location. As the device moves, the dot on the map also moves.</p>
F	Mobile signal strength	<p>Let's you identify when devices are situated in areas with weak cellular coverage or potential dead zones. To use this feature, you must first enable Mobile signal strength with location.</p> <p>On the map, you'll see the mobile signal strength status of every device in your fleet represented by colored dots. These dots are updated at the same rate as your location data collection frequency.</p> <ul style="list-style-type: none">• Good (green): -70 dBm or higher• Normal (blue): -71 dBm to -80 dBm• Bad (red): -81 dBm to -139 dBm• No signal (grey): -140 dBm or lower, no collection <p>These dots also appear in the map's Device list, letting you quickly correlate the device IDs with each mobile signal strength status. If you want to only show devices with a specific status—for example, only show Bad devices—you can select the status using the map's Filter options next to the Search icon.</p>

See <https://docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/location-dashboard/use-the-location-dashboard/>

The figure below shows another example of the interactive maps provided by the KAI service that allows the IT admin to track the location of the managed mobile devices.

See https://image-us.samsung.com/SamsungUS/samsungbusiness/solutions/services/mobility-software/Knox_Asset_Intelligence_Flyer.pdf (“Knox Asset Intelligence Flyer”)

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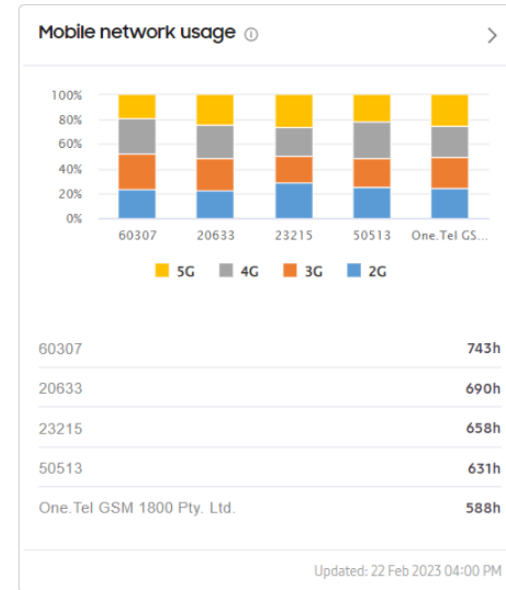


Knox Asset Intelligence Flyer, p. 9

The figure below shows data analytics provided by the KAI service which from the database associated with the manage mobile devices. The EMM console provides data analytics to the IT admin which are automatically tracked and tabulated, that summarizes the cumulative mobile network usage by all managed mobile devices,

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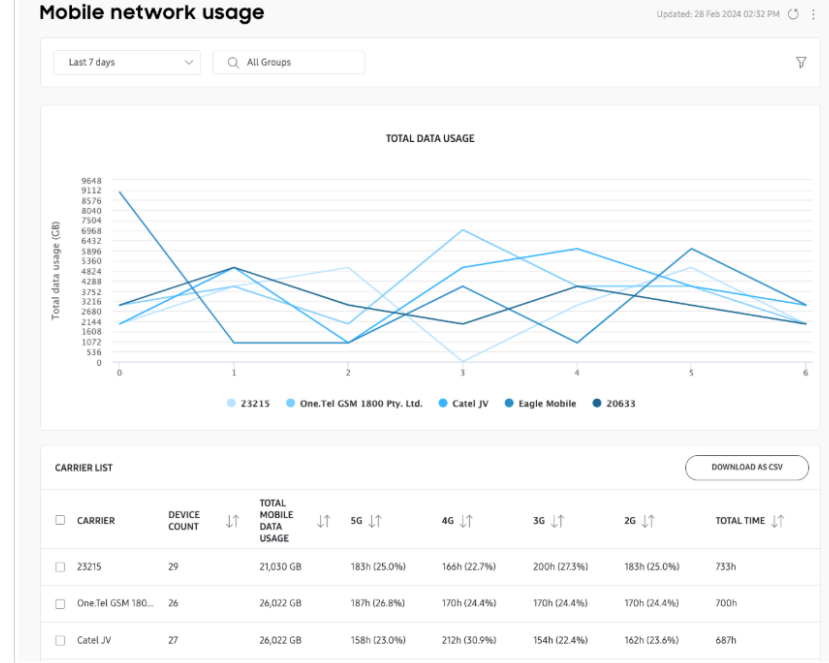
based on the network generation and telecommunication carrier (shown as Mobile Country Codes, Mobile Network Codes, or carrier name).



See <https://docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/network-insights/mobile-network-usage/>

The figure below shows more granular data analytics for mobile network usage provided by the KAI service. This infographic parses telecommunication carrier usage by the number of managed mobile device enrolled for an example employer, over a 7-day period.

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See <https://docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/network-insights/mobile-network-usage/>

[1B] storing, by action of said computer, said mobile device location information and said quality or service information in a memory or database;

The Accused Knox Suite Products store information associated with the managed mobile devices in a Knox database so that the information can be accessible to the IT admin through the EMM console.

The data storage servers for the KAI service store data associated with the managed mobile devices in a queryable database as well as continuing to monitor, collect, and process, in automated fashion, data associated with the managed devices. The

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figure below shows the queryable date ranges for specific data stored in the database.

Data type	Data insight	Dashboard update rate	Available date ranges
Common	Device status	Real-time	Can only view data for Today
Battery	Battery status and state of health	Real-time	Can only view data for Today
	Low battery, Battery drain, and Charge events	Previous day	Can view data for Yesterday, or Last 7, 14, 30, or 60 days.
	Battery level at shift start	Real-time when viewing Today's issues , otherwise Previous day.	Can view data for Yesterday, or Last 7, 14, 30, or 60 days.
	Battery level at shift end	Previous day	Can view data for Yesterday, or Last 7, 14, 30, or 60 days.
App	App usage	Previous day	Can view data for Yesterday, or Last 7, 14, 30, or 60 days.
	App issues	Real-time sent hourly by default. Can be changed in Dashboard Settings.	Can view data for Today, Yesterday, or Last 7, 14, 30, or 60 days.
Network	Wi-Fi disconnections	Real-time	Can view data for Today, Yesterday, Last 7, or 14 days.
	Mobile network usage	Previous day	Can view data for Yesterday, or Last 7, 14, 30, or 60 days.
	Network latency response time	Previous day	Can view data for Last 7, 14, or 30, days.
System	Storage usage status	Real-time every every 3 hours.	Can only view data for Today.
Scan	Scanning performance	Real-time when viewing data for Today , otherwise Previous day.	Can view data for Today, Yesterday, or Last 7, 14, 30, or 60 days.
KSP	Knox Service Plugin	Real-time	Can only view data for Today.
Location	Location status	Real-time	Can only view data for Today.
Security	Warranty bit	Real-time	Can only view data for Today.

See <https://docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/overview/>

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[1C] updating, by action of said computer, said mobile device location information stored in said memory or database when a mobile device of said plurality of mobile devices travels from one location to another;

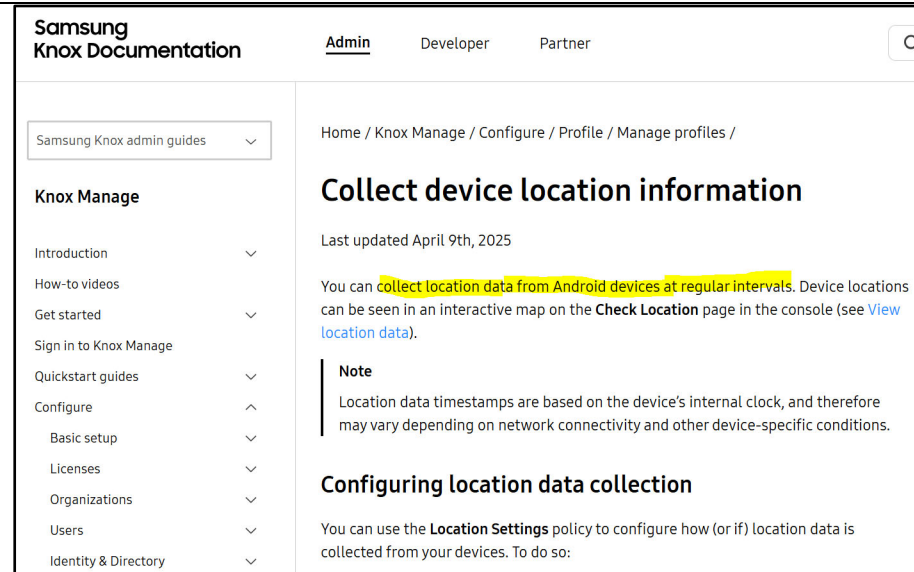
The locations dashboard is manually or automatically updated to provide automatic live tracking of managed mobile devices, for up to 30 seconds at a time. The table below states that the mobile signal strength information, associated with managed mobile devices is “updated at the same rate as your location data collection frequency.” Mobile signal strength information is quality or service information associated with at least one mobile device or end user associated with one or more wireless communications networks, mobile devices, or end users.

Live tracking	<p>Click to receive continuous location updates from your devices for up to 30 seconds at a time. Live tracking stops after 30 seconds, after which you'll have to click the Live tracking button once again to receive continuous updates for another 30 seconds.</p> <p>This button can only be clicked after a certain zoom level. If you can't click the button, try zooming in on the map until you can. If your devices are active and reporting location data, you'll see a dot on the map showing the device's location. As the device moves, the dot on the map also moves.</p>
Mobile signal strength	<p>Let's you identify when devices are situated in areas with weak cellular coverage or potential dead zones. To use this feature, you must first enable Mobile signal strength with location.</p> <p>On the map, you'll see the mobile signal strength status of every device in your fleet represented by colored dots. These dots are updated at the same rate as your location data collection frequency.</p> <ul style="list-style-type: none"> • Good (green): -70 dBm or higher • Normal (blue): -71 dBm to -80 dBm • Bad (red): -81 dBm to -139 dBm • No signal (grey): -140 dBm or lower, no collection <p>These dots also appear in the map's Device list, letting you quickly correlate the device IDs with each mobile signal strength status. If you want to only show devices with a specific status—for example, only show Bad devices—you can select the status using the map's Filter options next to the Search icon.</p>

See <https://docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/location-dashboard/use-the-location-dashboard/>

See also <https://docs.samsungknox.com/admin/knox-manage/configure/profile/manage-profiles/collect-device-location-information/>

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See also <https://www.macroev.com/resources/streamlining-kiosk-devices-the-power-of-samsung-knox-suite> (“Location Tracking and Remote Actions: For kiosks that are not permanently installed, Knox Asset Intelligence offers GPS-based location tracking. This helps in recovering lost or misplaced devices. Remote actions like triggering a sound or flashing the device's light can also aid in locating a specific kiosk.”)

See also docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/location-dashboard/location-overview/

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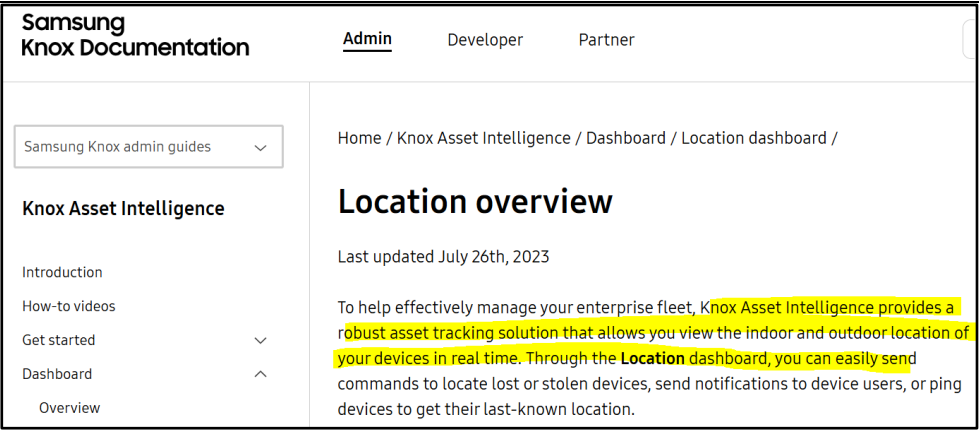
	 <p>The screenshot shows the Samsung Knox Documentation Admin interface. The top navigation bar includes 'Admin', 'Developer', and 'Partner'. The left sidebar lists 'Knox Asset Intelligence' with sub-items: 'Introduction', 'How-to videos', 'Get started', 'Dashboard', and 'Overview'. The main content area is titled 'Location overview' and includes the text: 'To help effectively manage your enterprise fleet, Knox Asset Intelligence provides a robust asset tracking solution that allows you view the indoor and outdoor location of your devices in real time. Through the Location dashboard, you can easily send commands to locate lost or stolen devices, send notifications to device users, or ping devices to get their last-known location.'</p>
[1D] providing access to said quality or service information stored in said memory or database to one or more end users or one or more end user communication devices or one or more carriers or third parties that provide services to said one or more end users or one or more end user communication devices or one or more carriers, or to said one or more wireless communications networks; and	The Accused Knox Suite Products allow the IT admin to view, use, and sort network performance data of managed mobile devices in the EMM console and the EMM client on the managed mobile devices.

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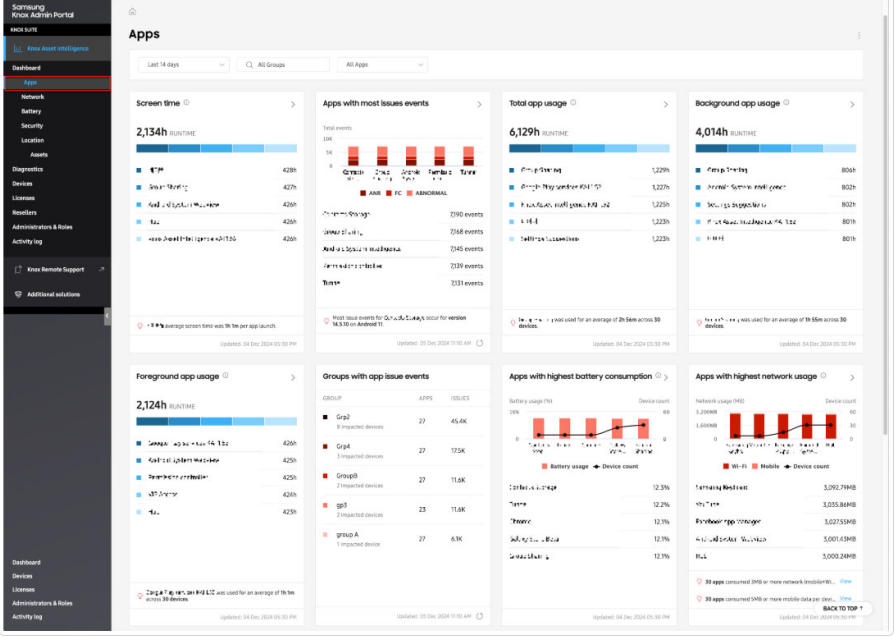
	 <p>See https://docs.samsungknox.com/admin/knox-asset-intelligence/dashboard/app-insights/app-usage/overview/</p>
<p>[1E] wherein said wireless access characteristics comprise one or more of identified, perceived or measured:</p> <p>radio reception quality,</p> <p>network performance,</p> <p>quality of service,</p> <p>data rate,</p> <p>spectrum availability or suitability,</p>	<p>See claim elements [1A], [1C], and [1D] above.</p>

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capacity or bandwidth, availability or quality of coverage, availability or quality of capacity, availability or quality of one or more services or carriers, availability or quality of air interfaces, average use profile, average availability profile, statistics on outage or reliability or coverage or capacity carrying capabilities for one or more service providers, frequencies, radio frequency or quality of service or coverage or service map or addresses for one or more service providers, radio frequency or end-user application performance, and cost of service.	
Claim 10	Accused Knox Suite Products
[10PRE] A system for collecting and providing access to quality or service information associated with one or more wireless	See claim element [1PRE] above.

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communications networks, mobile devices, or end users, comprising:	
[10A] a computer configured to receive mobile device location information of a plurality of mobile devices or end users that are associated with one or more wireless communications networks and quality or service information pertaining to wireless access characteristics for one or more mobile devices of said plurality of mobile devices or end users, and said quality or service information comprising coverage, availability or performance information of one or more wireless communications networks or said one or more mobile devices;	See claim element [1A] above.
[10B] a memory or database configured to store the received mobile device location information and quality or service information;	See claim element [1B] above.
[10C] an interface through which one or more end users or one or more end user communication devices, or one or more carriers, or one or more third parties that provide services to said one or more end users or one or more end user communication devices or said one or more carriers, or	See claim element [1D] above.

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one or more wireless communications networks may access said quality or service information or mobile device location information stored in said memory or database; and	
[10D] wherein said wireless access characteristics comprise one or more of identified perceived or measured: radio reception quality, network performance, quality of service, data rate, spectrum availability or suitability, capacity or bandwidth, availability or quality of coverage, availability or quality of capacity, availability or quality of one or more services or carriers, availability or quality of air interfaces, average use profile, average availability profile, statistics on outage or reliability or coverage or capacity carrying capabilities for one or more service providers,	See claim elements [1A], [1C], and [1D] above.

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frequencies, radio frequency or quality of service or coverage or service map or addresses for one or more service providers, radio frequency or end-user application performance, and cost of service.	
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